

**FY 2017 Traditional Section 6 Grant Program  
PRIORITY LIST OF PROJECT TOPICS  
{Federal conservation status listed; if none then NatureServe or IUCN ranks appear}**

## **PLANTS**

**Population Status Assessments for Listed Plants at Big Bend National Park:**

- Chisos Mountain hedgehog cactus (*Echinocereus chisoensis* var. *chisoensis*), **THREATENED**; Bunched cory-cactus (*Coryphantha ramillosa* ssp. *Ramillosa*), **THREATENED**; Lloyd's mariposa cactus (*Echinomastus mariposensis*), **THREATENED**; and Guadalupe fescue (*Festuca ligulata*), **PROPOSED ENDANGERED**. Project must use statistically robust range-wide sampling methods and analyses to estimate global population sizes, and must establish repeatable methods and criteria so that population trends may be assessed over long term. This project will contribute new data on the characteristics of occupied sites to improve modelling of potential habitats and estimation of the species' global range and total population size.

**Walker's manioc (*Manihot walkerae*) ENDANGERED**

- Conduct extensive, methodical surveys (using TPWD Rare Plant Survey Form) of extant and previously undetected populations; establish conservation agreements with landowners; conduct demographic monitoring of known populations to document population trends, including assessments of mortality, recruitment, and dispersal, and assess and document threats at each population, including evidence of plant tuber consumption (disturbance, digging up) of plants' tubers by wildlife.

**Texas prairie dawn (*Hymenoxys texana*) ENDANGERED:**

- Investigate pollination biology, with a focus on dispersal mechanisms.
- Map essential habitat features (soils and hydrology) for the species to help predict and identify future areas to survey.

**Johnston's frankenia (*Frankenia johnstonii*) DELISTED**

- As part of the Post Delisting Monitoring (PDM) plan, conduct on-site assessments to monitor plant population status. Data collection must follow existing protocol (contact Anna Strong, 512-389-4767): surveying known areas of plants and mapping population perimeters; estimating population size of nine *Frankenia johnstonii* sites identified in the PDM plan (using randomly-selected 10m<sup>2</sup> transects or exact counts depending on population size); and, documenting overall population site conditions (with TPWD Plant Field Forms and photographs).

## **INVERTEBRATES**

**Texas Freshwater Mussels:**

- **Texas hornshell (*Popenaias popeii*) PROPOSED ENDANGERED G1S1**
  - Proposals to evaluate water quality (temperature, dissolved oxygen, etc..) tolerance limits, water quality models, and hydraulic habitat requirements throughout its known range, and for the species known host fishes.

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- **For any of the following species listed below:**
  - Proposals to evaluate the status and distribution of threatened mussel species in the upper Brazos (upstream of the city of Waco), upper Colorado Rivers, Wichita River basin and other Red River tributaries.
  - Assessment of threats to known populations such as: habitat alterations, low flow water quality requirements, loss of river connectivity due to barriers, and environmental contaminants.
  - Evaluation of habitat availability, and estimates of population size and population dynamics

**Texas heelsplitter (*Potamilus amphichaenus*) PETITIONED**

**Triangle pigtoe (*Fusconaia lananensi*) G1S1; CRITICALLY IMPERILED**

**Louisiana pigtoe (*Pleurobema riddelli*) G1S1; CRITICALLY IMPERILED**

**Texas fawnsfoot (*Truncilla macrodon*) PETITIONED**

**Mexican fawnsfoot (*Truncilla cognate*) PETITIONED**

**Falsespike, (*Fusconia* [*Quadrula*] *mittelli*) PETITIONED**

**Salina mucket (*Potamilus metnecktyai*) PETITIONED**

**Smooth pimpleback (*Quadrula houstonensis*) PETITIONED**

**Texas pimpleback (*Quadrula petrina*) PETITIONED**

**Texas fatmucket (*Lampsilis bracteata*) PETITIONED**

**Golden orb (*Quadrula aurea*) PETITIONED**

***Arthropods***

**Texas Emerald Dragonfly (*Somatochlora margarita*) PETITIONED/UNDER REVIEW:**

- Assess and define larval habitat use and requirements.

**Comal Springs dryopid beetle (*Stygoparnus comalensis*) ENDANGERED**

- Proposals on the life history, habitat associations, and trophic ecology.

**FISH**

**Mexican Blindcat (*Prietella phreatophila*) ENDANGERED.**

- In light of recent discovery in Texas information needed on distribution and abundance to inform management and conservation.

**Plateau Shiner (*Cyprinella lepida*) G1G2 S1S2 IUCN Endangered; and Nueces River Shiner (*Cyprinella* spp.) – Not listed**

- Proposals documenting life history, current distribution, and status in the Edwards Plateau.

**Imperiled Great Plains fishes (see species list below):**

- Development of production facilities to aid in research and repatriation efforts;
- Assessment of habitat fragmentation including physical and hydrologic barriers to movement; develop plans to eliminate or mitigate barriers;
- Development of drought management plans including assessments of refugia during droughts, criteria for instream and off site refugia and hatcheries, genetics management, etc.

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- Assessment of impacts of off-road vehicle use in Canadian and Red River basins;
- Assessment of distribution and effects of *Phragmites* in the Canadian River upstream of Lake Meredith; implement treatment;
- Assessment of migration and drift requirements of Great Plains broadcast spawning cyprinids;
- Development of repatriation plans and strategies for imperiled fishes of the Great Plains;
- Assessment of effects of invasive Sheepshead Minnow and Gulf Killifish in the Brazos and Red river basins including: identifying sources/causes of invasion; development of mitigation strategies/management plans and control strategies in priority areas.

Fishes include, but not limited to:

**Red River Pupfish (*Cyprinodon rubrofluviatilis*) G5S4 Not listed**  
**Plains Minnow (*Hybognathus placitus*) Surrogate species – G4S4**  
**Prairie Chub (*Macrhybopsis australis*) G3 not ranked for TX**  
**Shoal Chub (*M. hyostoma*) Surrogate species; G5 not ranked for TX**  
**Silver Chub (*M. storeriana*) G5S3 Not listed**  
**Peppered Chub (*M. tetranema*) G1S1 IUCN Critically Imperiled**  
**Red River Shiner (*Notropis bairdi*) G4S3 Not listed**  
**Smalleye Shiner (*N. buccula*) ENDANGERED**  
**Arkansas River Shiner (*N. girardi*) THREATENED**  
**Sharpnose Shiner (*N. oxyrhynchus*) ENDANGERED**  
**Chub Shiner (*N. potteri*) – G4S4 Not listed**

## **HERPS**

**Houston toad (*Anaxyrus houstonensis*) ENDANGERED:**

- Investigate the change/loss/gain of suitable habitat across the species range.
- Development of a Houston toad call recognizer (audio loggers) for USFWS.

## **BIRDS**

**Whooping Crane (*Grus americana*) ENDANGERED:**

- Managing in-stream flows for improved estuarine health and wintering WHCR habitat: Key research questions include identifying freshwater sources and finding ways to ensure freshwater, nutrients, and sediments are delivered to these coastal estuaries. Research should investigate cost/benefits of various water-delivery options.

**Piping Plover (*Charadrius melodus*) THREATENED; and Red Knot (*Calidris canutus*) THREATENED:**

- Comparison of effects of various beach maintenance programs, beach nourishment, and human activities on shorebird use of beach habitat (measured by birds' abundance, distribution, and prey availability). Develop management recommendations for land managers.

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**Red-crowned Parrot (*Amazona viridigenalis*) CANDIDATE:**

- Assessment of the species' population status, habitat use and conditions, and threat levels in Tamaulipas, Mexico.
- Development of monitoring plans for this species and initial implementation of this monitoring in key areas of habitat in Tamaulipas.
- Outreach to local landowners and communities in areas where the parrots occur regarding conservation of the parrots and their habitat.
- Development of conservation recommendations for the red-crowned parrot in Mexico based on findings.

**Golden-cheeked Warbler (*Setophaga chrysoparia*) ENDANGERED:**

- Using GIS techniques evaluate landuse or vegetative cover changes over time across all or important portions of winter range.
- Winter home range delineation using GIS and ground verification.
- Evaluate the potential and feasibility for conservation and protection of winter range sites critical to overwintering GCWA on lands under formal protection (private reserves, state and community properties, etc.).
- Reforestation of critical winter sites, perhaps on pilot study basis for feasibility and logistical refinement on country by country basis.

## **MAMMALS**

**Texas Kangaroo Rat (*Dipodomys elator*) PETITIONED/UNDER REVIEW:**

- Research on dispersal (adults and offspring), habitat requirements, and effective management actions to maintain or improve habitat conditions and population viability.
- Assess potential for establishing a captive breeding program and associated techniques and requirements for captive-reared individuals.

**Ocelot (*Leopardus pardalis*) ENDANGERED:**

- Investigate methods for improving quality and quantity of thornscrub habitat and techniques to potentially shorten the maturation time to becoming usable habitat for ocelots (as travel corridors and denning). Include evaluation of restoration in marginal quality soils and whether soil-conditioning treatments may improve thornscrub restoration success.